ABSTRACT OF THE DISCLOSURE

An apparatus generally having a first circuit and a second circuit for motion estimation is disclosed. The first circuit may be configured to (i) generate a first motion vector for a block at an integer-pel resolution and (ii) determine a single block size associated with the first motion vector. The second circuit may be configured to (i) generate a plurality of second motion vectors at a sub-pel resolution by searching proximate the first motion vector using the single block size and (ii) determine a motion vector for the block as a particular one of the second motion vectors best matching a plurality of reference samples.